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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,394	11/26/2001	Serge Lanvin	600.1189	7881
23280	7590	09/08/2009		
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ART UNIT		PAPER NUMBER		
3724				
MAIL DATE		DELIVERY MODE		
09/08/2009		PAPER		

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1 UNITED STATES PATENT AND TRADEMARK OFFICE

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4 BEFORE THE BOARD OF PATENT APPEALS  
5 AND INTERFERENCES  
6

7  
8 *Ex parte* SERGE LANVIN and JEAN FRANCOIS ROBERT  
9

10  
11 Appeal 2009-001181  
12 Application 09/994,394  
13 Technology Center 3700  
14

15  
16 Decided: September 8, 2009  
17

18  
19 Before JENNIFER D. BAHR, MICHAEL W. O'NEILL, and  
20 FRED A. SILVERBERG, *Administrative Patent Judges*.

21  
22 SILVERBERG, *Administrative Patent Judge*.  
23

24  
25 DECISION ON APPEAL  
26

27 STATEMENT OF THE CASE

28 Serge Lanvin et al. (Appellants) seek our review under 35 U.S.C.  
29 § 134 of the final rejection of claims 1-19. We have jurisdiction under 35  
30 U.S.C. § 6(b) (2002).

SUMMARY OF DECISION

We AFFIRM-IN-PART.

THE INVENTION

The Appellants' claimed invention is directed to a device for perforating material webs (Spec.: ¶ [0002]).

The invention is readily understood by reference to Figure 3, and Claim 1.

Figure 3 is reproduced below:

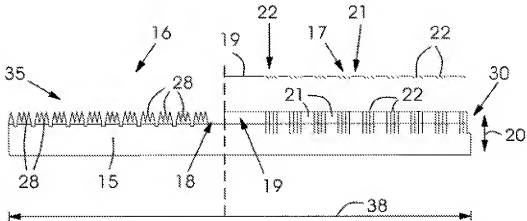


Fig.3

Figure 3 shows a top view of a perforating tool 15 in the form of a perforating knife (Spec. 8: ¶¶ [0029]-[0030]).

Claim 1, reproduced below, is representative of the claimed subject matter:

1. A perforating tool for perforating single or multiple layer material webs or sheets separated therefrom, the perforating tool comprising:  
a first section having a plurality of perforating teeth and a perforation-free gap; and

1                   a second section having a cutting zone and at least one  
2                   group of perforating elements in alternating sequential fashion,  
3                   the perforating elements being angled with respect to a  
4                   longitudinal axis of the second section;  
5                   the first section being adjacent the second section at a  
6                   center line, the perforation-free gap of the first section  
7                   extending from the fold center line to the plurality of  
8                   perforating teeth.

9  
10                   THE REJECTIONS

11                   The Examiner relies upon the following as evidence of  
12                   unpatentability<sup>1</sup>:

13                   Wadzinski	US 5,146,829	Sept. 15, 1992
14                   Foster	US 5,524,930	Jun. 11, 1996
15                   Ganneval	US 6,454,692 B2	Sept. 24, 2002
16                   (hereinafter, “Ganneval '692”)		
17                   Ganneval (as translated)	FR 2,782,504 A1	Feb. 25, 2000
18                   (hereinafter, “Ganneval '504”)		

19  
20                   The following rejections by the Examiner are before us:

- 21                   1. Claims 1-6 and 8-19 are rejected under 35 U.S.C. § 102(b) as being  
22                   anticipated by Foster.
- 23                   2. Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable  
24                   over Foster in view of Wadzinski.
- 25                   3. Claims 1-6 and 8-19 are rejected under 35 U.S.C. § 103(a) as being  
26                   unpatentable over Ganneval '504 in view of Foster.

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<sup>1</sup> The Examiner states that for the purpose of understanding Ganneval '504, the reference numbers of Ganneval '692 were provided (Ans. 5). Appellants have not contested the Examiner's usage of Ganneval '692 for illustrative purposes. Further, Appellants have also cited to the reference numbers of Ganneval '692 (e.g., App. Br. 8). In treating this appeal, we will follow the same approach.

4. Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Ganneval '504 in view of Foster, and further in view of Wadzinski.

#### ISSUES

The issues before us are whether: (1) Foster describes a “perforation-free gap of the first section extending from the center line to the plurality of perforating teeth” as called for in claims 1, 14 and 15 (App. Br. 6); (2) the Examiner has articulated a reason with rational underpinning to combine the teachings of Ganneval '504 and Foster as called for in claims 1, 14 and 15 (App. Br. 8); and (3) it would have been possible for one having ordinary skill in the art to combine the teachings of Foster and Wadzinski, and Ganneval '504, Foster and Wadzinski in the manner called for in claim 7 (App. Br. 9, 11).

#### FINDINGS OF FACT

We find that the following enumerated findings are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

##### *The Appellants' Invention*

1. The Appellants' Specification describes that “[t]ool free area makes it possible to create a material bridge in the center of a multilayer folded sheet. The material bridge ... stabilizes the folded spine of the multilayer sheet in the area of its center.” (Spec. 8: ¶ [0032]) (emphasis added).

*The Examiner's Findings*

*Claims 1-6 and 8-19*

2. The Examiner finds that Foster describes all of the limitations of claims 1-6 and 8-19 (Ans. 3).
3. The Examiner finds that Ganneval '504 describes all of the limitations called for in claims 1-6 and 8-19, except that Ganneval '504 does not describe perforating elements angled with respect to the longitudinal axis of the second section (Ans. 5).
4. In particular, the Examiner finds that Ganneval '504 describes a tool 34, a perforation-free gap 46, cutting zone 45, and a group of perforating elements 44 (Ganneval '692, col. 9, ll. 22-26) (Ans. 5).
5. The Examiner finds that Foster teaches perforating elements 20 angled with respect to the longitudinal axis 26 of the second section (col. 2, l. 56-col. 3, l. 20), wherein the angle range is between 10-40 degrees (col. 4, ll. 18-20) (Ans. 3, 5, 7).
6. The Examiner finds that to combine the teachings of Ganneval '504 and Foster, by providing Ganneval '504 with perforating elements that are angled with respect to the longitudinal axis as taught by Foster, would enable the work piece to twist more easily (Ans. 5, 9).

*Claim 7*

7. The Examiner concluded that it would have been obvious to modify the teachings of Foster, and the teachings of Ganneval '504 in view of Foster, by providing perforating elements symmetrically angled with respect to the axis, as taught by Wadzinski at 22, in

order to apply even pressure to the rear and front sides of the perforating elements (Ans. 4-6).

*The Board's Findings*

8. Foster describes a perforating blade 10 including a cutting edge 16, an approximate center mid-point 18, angled curved teeth 20, and straight teeth 22. The straight teeth 22 and the curved teeth 20 are spaced apart by gaps 24. The gaps 24 result in uncut sections of paper called ties 28 (col. 2, ll. 47-col. 3, l. 12 and figs. 1-3). The approximate center mid-point 18 is located along the cutting edge 16 (figs. 1 and 2).

9. Foster further describes that “[a]ngled straight cuts 23 all to the same one side only of center cut 19 are also shown in FIG. 3. These function well also, so long as the cuts are all to the same side of center line 26 on both sides of center cut 19, as required by the invention.” (col. 3, ll. 14-18 and fig. 3). Figure 3 of Foster shows that the angled straight cuts 23 are only to one side of the center mid-point 18.

10. Foster still further describes that “[i]mportant, too, is that the fold line 26 has perforations, whether straight or curved, that extend only on one side 29 of the fold line 26 and not on the opposite side 30 of the fold line 26.” (col. 3, ll. 24-27 and fig. 3).

11. Foster still further describes that “the ability of the signature<sup>[2]</sup> to fold has been determined to be dependent upon the ability of the ties 28 to twist.” (col. 3, ll. 10-12).

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<sup>2</sup> A signature is a folded sheet that is one unit of a book. MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY (10<sup>th</sup> ed. 1996).

12. Foster still further describes that the angled cut ties 28 give the tie 28 its best twisting action (col. 4, ll. 30-44 and fig. 3).

13. Ganneval '504 shows cutout 46 being wider than non-cutting sections 47 (Ganneval '692, fig. 4).

14. Additional findings as necessary appear in the Analysis portion of this opinion.

## PRINCIPLES OF LAW

### *Appellants' Burden*

Appellants have the burden on appeal to the Board to demonstrate error in the Examiner's position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) ("On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.") (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)). *See also Ex parte Yamaguchi*, 88 USPQ2d 1606, 1614 (BPAI 2008) [burden on appeal] (on appeal, applicant must show examiner erred); *Ex parte Fu*, 89 USPQ2d 1115, 1123 (BPAI 2008); *Ex parte Catan*, 83 USPQ2d 1569, 1577 (BPAI 2007); and *Ex parte Smith*, 83 USPQ2d 1509, 1519 (BPAI 2007).

### *Anticipation*

"Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention." *RCA Corp. v. Applied Digital Data Sys., Inc.*, 730 F.2d 1440, 1444 (Fed. Cir. 1984). In other words, "[t]here must be



no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention.” *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1576 (Fed. Cir. 1991). It is not necessary that the reference teach what the subject application teaches, but only that the claim read on something disclosed in the reference, i.e., that all of the limitations in the claim be found in or fully met by the reference. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 772 (Fed. Cir. 1983).

#### *Obviousness*

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). See also *KSR*, 550 U.S. at 406-407 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”).

In *KSR*, the Supreme Court stated that “when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination

1 must do more than yield a predictable result.” *Id.* at 416 (citing *United*  
2 *States v. Adams*, 383 U.S. 39, 50-51 (1966)).

3 In *KSR*, the Supreme Court held that “[i]f a technique has been used to  
4 improve one device, and a person of ordinary skill in the art would recognize  
5 that it would improve similar devices in the same way, using the technique is  
6 obvious unless its actual application is beyond his or her skill.” *KSR*, 550  
7 U.S. at 417.

8 In *KSR*, the Supreme Court stated that:

9 Often, it will be necessary for a court to look to  
10 interrelated teachings of multiple patents; the  
11 effects of demands known to the design  
12 community or present in the marketplace; and the  
13 background knowledge possessed by a person  
14 having ordinary skill in the art, all in order to  
15 determine whether there was an apparent reason to  
16 combine the known elements in the fashion  
17 claimed by the patent at issue.  
18

19 *KSR*, 550 U.S. at 418. The Court noted that “[t]o facilitate review, this  
20 analysis should be made explicit.” *Id.* (citing *In re Kahn*, 441 F.3d 977, 988  
21 (Fed. Cir. 2006) (“[R]ejections on obviousness grounds cannot be sustained  
22 by mere conclusory statements; instead, there must be some articulated  
23 reasoning with some rational underpinning to support the legal conclusion of  
24 obviousness”)). However, “the analysis need not seek out precise teachings  
25 directed to the specific subject matter of the challenged claim, for a court  
26 can take account of the inferences and creative steps that a person of  
27 ordinary skill in the art would employ.” *KSR*, 550 U.S. at 418.

28 In *KSR*, the Supreme Court stated that:

Helpful insights, however, need not become rigid and mandatory formulas; and when it is so applied, the TSM test is incompatible with our precedents. ... There is no necessary inconsistency between the idea underlying the TSM test and the *Graham* analysis. But when a court transforms the general principle into a rigid rule that limits the obviousness inquiry, as the Court of Appeals did here, it errs.

*KSR*, 550 U.S. at 419

### *Teaching Away*

“A reference may be said to teach away when a person of ordinary skill, upon reading the reference, ... would be led in a direction divergent from the path that was taken by the applicant.” *In re Haruna*, 249 F.3d 1327, 1335 (Fed. Cir. 2001). “[W]hen the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious.” *KSR*, 550 U.S. at 416 (citing *United States v. Adams*, 383 U.S. 39, 51-52 (1966)).

## ANALYSIS

*Rejection of claims 1-6 and 8-19 under 35 U.S.C. § 102(b) as being anticipated by Foster*

Appellants contend that Foster does not describe a “perforation-free gap of the first section extending from the center line to the plurality of perforating teeth” as called for in claims 1, 14 and 15 (App. Br. 6).

The Examiner has provided no reply to Appellants’ contention (Ans. 6-8).

1           The Appellants' Specification describes that the perforation-free gap  
2       makes it possible to create a material bridge, which stabilizes the folded  
3       spine of a multilayer sheet (Fact 1).

4           The Examiner found that Foster describes all of the limitations of  
5       claims 1-6 and 8-19 (Fact 2).

6           In Foster, the approximate center mid-point 18 is located along the  
7       cutting edge 16, wherein gaps 24 are spaced from the center mid-point 18  
8       (Fact 8, *see also* fig. 3). Therefore, Foster does not describe a perforation-  
9       free gap extending from the center mid-point 18. Thus, Foster does not  
10      describe a "perforation-free gap of the first section extending from the center  
11      line to the plurality of perforating teeth" as called for in claims 1, 14 and 15.

12          Accordingly, we see error in the Examiner's finding that Foster  
13      describes all of the limitations of claims 1-6 and 8-19.

14          Therefore, we conclude that Appellants have demonstrated that the  
15      Examiner erred in rejecting claims 1, 14 and 15 over Foster. Appellants  
16      have likewise demonstrated error in the Examiner's rejection of claims 2-6,  
17      8-13 and 16-19, which depend from claim 1.

18  
19      *Rejection of claims 1-6 and 8-19 under 35 U.S.C. § 103(a) as being*  
20      *unpatentable over Ganneval '504 in view of Foster*

21          Appellants contend that, in Ganneval '504, there is no teaching or  
22      motivation to only angle one section (41 in Ganneval '692) without the other  
23      (App. Br. 8).

24          To the extent that the Appellants are arguing for a rigid application of  
25      the teaching-suggestion-motivation test, this argument is not persuasive in  
26      light of the Court's decision in *KSR*, 550 U.S. at 419 (holding that it is error

1 to apply the teaching-suggestion-motivation test as a rigid formula to limit  
2 the obviousness inquiry).

3 Appellants further contend that one of skill in the art would not have  
4 angled one section 41 (shown in Ganneval '692), especially in view of  
5 Foster, which requires discrete sections to provide angling (App. Br. 8).  
6 Appellants still further contend that the motivation provided by the  
7 Examiner to combine the teachings of Ganneval '504 and Foster "to enable  
8 the work piece to *twist more easily*," is not understood (App. Br. 8).

9 The Examiner found that Ganneval '504 describes all of the  
10 limitations called for in claims 1-6 and 8-19; except that Ganneval '504 does  
11 not describe perforating elements angled with respect to the longitudinal axis  
12 of the second section (Fact 3). In particular, the Examiner found that  
13 Ganneval '504 describes a tool 34, a perforation-free gap 46, cutting zone  
14 45, and a group of perforating elements 44 (Fact 4).

15 The Examiner found that Foster teaches perforating elements 20  
16 angled with respect to the longitudinal axis 26 of the second section (Fact 5).

17 Figure 3 of Foster shows that the angled straight cuts 23 are only to  
18 one side of the center mid-point 18 (Fact 9). Foster further describes that  
19 "the ability of the signature to fold has been determined to be dependent  
20 upon the ability of the ties 28 to twist." (Fact 11). Foster still further  
21 describes that the angled cut ties 28 give the tie 28 its best twisting action  
22 (Fact 12).

23 We see no error in the Examiner's findings (Facts 3-6), and conclude  
24 that it would have been obvious at the time the invention was made to a  
25 person having ordinary skill in the art to combine the teachings of Ganneval  
26 '504 and Foster as set forth by the Examiner, by providing Ganneval '504

1 with perforating elements that are angled with respect to the longitudinal  
2 axis on one side of the perforation-free gap (cut-out) 46, as taught by Foster  
3 at 20, to enable the work piece to twist more easily (Fact 6). The  
4 modification proposed by the Examiner is nothing more than the simple  
5 substitution of one known perforating element for another to perform the  
6 same function of enabling the work piece to twist more easily, or the mere  
7 application of a known technique to a piece of prior art ready for the  
8 improvement. *KSR*, 550 U.S. at 416, 417. *See also Anderson's-Black Rock,*  
9 *Inc. v. Pavement Salvage Co., Inc.*, 396 U.S. 57 (1969) (paving repair  
10 apparatus consisting of a combination of three known elements, all  
11 performing their established functions in the combination, held obvious).

12 Appellants state that claims 4, 5, 8, 9, 11, 16 and 17 are being argued  
13 separately (App. Br. 8-11).

14 Additionally, we see no error in the Examiner's findings that Foster  
15 teaches an angle between 10-40 degrees (Fact 5; cl. 4), and an angle of 10-  
16 40 degrees includes an angle of 30 degrees (cl. 5; Ans. 7).

17 While Appellants state that claims 8, 9, 11 and 16 are being argued  
18 separately, we find no specific arguments regarding these claims other than  
19 those previously presented.

20 Appellants further contend that neither Ganneval nor Foster describe  
21 "the perforation free gap being wider than the spaces." (cl. 17). Ganneval  
22 '504 describes the perforation-free gap (cut-out) 46 being wider than the  
23 spaces (non-cutting sections) 47 (Fact 13).

24 Therefore, we conclude that the Appellants have not demonstrated  
25 that the Examiner erred in rejecting claims 1, 14 and 15 over Ganneval '504  
26 in view of Foster. The Appellants have likewise not demonstrated error in

the Examiner's rejection of claims 2-6, 8-13 and 16-19, which depend from claim 1.

*Rejection of claim 7 under 35 U.S.C. § 103(a) as being unpatentable over Foster in view of Wadzinski, and over Ganneval '504 in view of Foster and further in view of Wadzinski*

Appellants contend that Ganneval '504 does not disclose any angles with respect to the axis (App. Br. 9). Appellants further contend that there is no proper motivation to combine the teachings of Wadzinski with the combined teachings of Ganneval '504 and Foster (App. Br. 11).

Claim 7 recites "wherein the perforating elements at a front edge and at a rear edge are symmetrically angled with respect to the axis."

The Examiner finds that it would have been obvious to modify the teachings of Foster, and the teachings of Ganneval '504 in view of Foster, by providing perforating elements symmetrically angled with respect to the axis as taught by Wadzinski in order to apply even pressure to the rear and front sides of the perforating elements (Fact 7).

For the reasons set forth below, we see error in the Examiner's finding that it would be obvious to modify the teachings of Foster, and the teachings of Ganneval '504 in view of Foster, by the teachings of Wadzinski.

Foster describes that their invention requires that the angled straight cuts 23 are all to the same side of the center line 26, and that it is important that the perforations, whether straight or curved, extend only on one side 29 of line 26 (Facts 9-10).

Further, regarding claim 1, from which claim 7 depends, the Examiner combined the teachings of Ganneval '504 and Foster, by providing Ganneval

'504 with perforating elements that are angled with respect to the longitudinal axis as taught by Foster (Fact 6).

Since Foster requires that the angled perforating elements be on one side of an axis, Foster teaches away from having perforating elements at a front edge and at a rear edge that are symmetrically angled with respect to the axis as called for in claim 7. Therefore, while the Examiner has articulated a reason to support the legal conclusion of obviousness, the Examiner has not provided any rational underpinning to support the legal conclusion of obviousness, since Foster teaches away from the invention called for in claim 7. *KSR*, 550 U.S. at 418 (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”). *See also In re Haruna*, 249 F.3d at 1335 (“A reference may be said to teach away when a person of ordinary skill, upon reading the reference, ... would be led in a direction divergent from the path that was taken by the applicant.”).

Therefore, we conclude that Appellants have demonstrated that the Examiner erred in rejecting claim 7 over Foster in view of Wadzinski, and over Ganneval '504 in view of Foster and further in view of Wadzinski.

#### CONCLUSIONS OF LAW

Appellants have established that the Examiner erred in finding that Foster describes a “perforation-free gap of the first section extending from the center line to the plurality of perforating teeth” as called for in claims 1, 14 and 15.



Appellants have not established that the Examiner erred in articulating a reason with rational underpinning that would have led a person of ordinary skill in the art to combine the teachings of Ganneval '504 and Foster as called for in claims 1, 14 and 15.

Appellants have established that the Examiner erred in finding that it would have been possible for one having ordinary skill in the art to combine the teachings of Foster and Wadzinski; and to combine the teachings of Ganneval '504, Foster and Wadzinski in the manner called for in claim 7.

#### DECISION

The decision of the Examiner to reject claims 1-6 and 8-19 over Ganneval '504 in view of Foster is affirmed. The decision of the Examiner to reject claims 1-6 and 8-19 over Foster; claim 7 over Foster in view of Wadzinski; and claim 7 over Ganneval '504 in view of Foster, and further in view of Wadzinski is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2007).

#### AFFIRMED-IN-PART

MLS

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